

AMENDMENTS TO THE CLAIMS

1. (Canceled) A diesel fuel additive for reducing a pollutant emission, the additive comprising: a plant oil extract; an antioxidant; and a thermal stabilizer.
2. (Canceled) The diesel fuel additive of claim 1, wherein the plant oil extract comprises an oil extract of a plant of the Leguminosae family.
3. (Canceled) The diesel fuel additive of claim 1, wherein the plant oil extract is selected from the group consisting of oil extract of vetch and oil extract of barley.
4. (Canceled) The diesel fuel additive of claim 1, wherein the plant oil extract comprises chlorophyll.
5. (Canceled) The diesel fuel additive of claim 1, wherein the antioxidant comprises .beta.-carotene.
6. (Canceled) The diesel fuel additive of claim 1, wherein the thermal stabilizer comprises jojoba oil.
7. (Canceled) The diesel fuel additive of claim 1, wherein the thermal stabilizer comprises an ester of a C20-C22 straight chain monounsaturated carboxylic acid.
8. (Canceled) The diesel fuel additive of claim 1, wherein the plant oil extract comprises oil extract of vetch, wherein the antioxidant comprises .beta.-carotene, and wherein the thermal stabilizer comprises jojoba oil.
9. (Canceled) The diesel fuel additive of claim 1, further comprising a diluent.

10. (Canceled) The diesel fuel additive of claim 9, wherein the diluent is selected from the group consisting of toluene, diesel fuel additive, diesel fuel, jet fuel, and mixtures thereof.
11. (Canceled) The diesel fuel additive of claim 1, further comprising an oxygenate.
12. (Canceled) The diesel fuel additive of claim 11, wherein the oxygenate is selected from the group consisting of methanol, ethanol, methyl tertiary butyl ether, ethyl tertiary butyl ether, and tertiary amyl methyl ether, and mixtures thereof.
13. (Canceled) The diesel fuel additive of claim 1, further comprising at least one additional additive selected from the group consisting of cetane improvers, detergents, corrosion inhibitors, metal deactivators, ignition accelerators, dispersants, anti-knock additives, anti-run-on additives, anti-pre-ignition additives, anti-misfire additives, antiwear additives, antioxidants, demulsifiers, carrier fluids, solvents, fuel economy additives, emission reduction additives, lubricity improvers, and mixtures thereof.
14. (Canceled) The diesel fuel additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of .beta.-carotene in the additive is from about 8.1:1 to about 4.0:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is from about 3.0:1 to about 2.0:1, and wherein a ratio of milliliters jojoba oil to grams of .beta.-carotene in the additive is from about 2.7:1 to about 1.7:1.
15. (Canceled) The diesel fuel additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of .beta.-carotene in the additive is from about 8.1:1 to about 4.8:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is from about 3.0:1 to about 2.4:1, and wherein a ratio of milliliters

jojoba oil to grams of .beta.-carotene in the additive is from about 2.7:1 to about 2.0:1.

16. (Canceled) The diesel fuel additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of .beta.-carotene in the additive is about 8.1:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is about 3.0:1, and wherein a ratio of milliliters jojoba oil to grams of .beta.-carotene in the additive is about 2.7:1.
17. (Canceled) The diesel fuel additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of .beta.-carotene in the additive is about 6.1:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is about 2.7:1, and wherein a ratio of milliliters jojoba oil to grams of .beta.-carotene in the additive is about 2.3:1.
18. (Canceled) The diesel fuel additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of .beta.-carotene in the additive is about 4.8:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is about 2.4:1, and wherein a ratio of milliliters jojoba oil to grams of .beta.-carotene in the additive is about 2.0:1.
19. (Canceled) The diesel fuel additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of p-carotene in the additive is from about 6.1:1 to about 4.0:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is from about 2.7:1 to about 2.2:1, and wherein a ratio of milliliters jojoba oil to grams of .beta.-carotene in the additive is from about 2.3:1 to about 1.8:1.
20. (Canceled) The diesel fuel additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of .beta.-carotene in

the additive is about 4.8:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is about 2.4:1, and wherein a ratio of milliliters jojoba oil to grams of .beta.-carotene in the additive is about 2.0:1.

21. (Canceled) The diesel fuel additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of .beta.-carotene in the additive is about 6.1:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is about 2.7:1, and wherein a ratio of milliliters jojoba oil to grams of .beta.-carotene in the additive is about 2.3:1.
22. (Canceled) The diesel fuel additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of .beta.-carotene in the additive is about 4.0:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is about 2.2:1, and wherein a ratio of milliliters jojoba oil to grams of .beta.-carotene in the additive is about 1.8:1.
23. (Canceled) The diesel fuel additive of claim 8, wherein the additive comprises a first component and a second component, wherein the first component comprises jojoba oil and .beta.-carotene, and wherein the second component comprises jojoba oil and oil extract of vetch.
24. (Canceled) The diesel fuel additive of claim 8, wherein the additive comprises a first component and a second component, wherein the first component comprises about 4 ml jojoba oil per 3785 ml of the first component and about 4 g .beta.-carotene per 3785 ml of the first component, and wherein the second component comprises from about 4 ml jojoba oil per 3785 ml of the second component and about 19.36 g oil extract of vetch per 3785 ml of the second component.

25. (Canceled) The diesel fuel additive of claim 8, wherein the additive comprises a first component and a second component, wherein the first component comprises about 32 ml jojoba oil per 3785 ml of the first component and about 32 g .beta.-carotene per 3785 ml of the first component, and wherein the second component comprises from about 32 ml jojoba oil per 3785 ml of the second component and about 155 g oil extract of vetch per 3785 ml of the second component.
26. (Canceled) The diesel fuel additive of claim 1, wherein the additive comprises a reformulated diesel fuel additive.
27. (Canceled) The diesel fuel additive of claim 1, wherein the diesel fuel additive is a No. 2 low sulfur diesel fuel additive.
28. (Previously presented) A diesel fuel additive comprising a plant oil extract derived from grain; a carotenoid; and a thermal stabilizer.
29. (Previously presented) The additive of claim 28, wherein the grain is selected from the group consisting of fescue, clover, wheat, barley, oats, rye, sorghum, flax, triticale, rice, corn, spelt, millet, amaranth, buckwheat, quinoa, kamut and teff.
30. (Previously presented) The additive of claim 28 wherein the carotenoid is selected from the group consisting of β -carotene, α -carotene, lycopene, leutin, betatene and mixtures thereof.
31. (Previously presented) The additive of claim 28, wherein the thermal stabilizer is selected from the group consisting of vegetable oils, nut oils, animal oils and mixtures thereof.

32. (Previously presented) The additive of claim 28 wherein the plant oil extract is derived from barley and the carotenoid is β -carotene.
33. (Previously presented) The additive of claim 28 wherein the thermal stabilizer is meadowfoam oil.
34. (Previously presented) The additive of claim 28 further comprising a diluent.
35. (Currently amended) The additive of claim 34 28 wherein the diluent is further comprising a solvent selected from the group consisting of toluene, benzene, o-xylene, m-xylene, p-xylene, cyclohexanes, hexane, octanes, nonanes, diesel fuel, jet fuel, gasoline, 2 cycle oil, resid fuel and mixtures thereof.
36. (Previously presented) The additive of claim 28 further comprising at least one additive selected from the group selected from octane improvers, cetane improvers, detergents, corrosion inhibitors, metal deactivators, ignition accelerators, dispersants, anti-knock additives, anti-run-on additives, anti-pre-ignition additives, anti-misfire additives, anti-wear additives, antioxidants, demulsifiers, carrier fluids, solvents, fuel economy additives, emission reduction additives, lubricity improvers, oxygenates and mixtures thereof.
37. (Previously presented) A diesel fuel additive comprising:
 - a hydrophobic plant oil extract;
 - a carotenoid; and
 - a thermal stabilizer selected from the group consisting of peanut oil, cottonseed oil, rape seed oil, macadamia oil, avocado oil, palm oil, palm kernel oil, meadowfoam oil, castor oil and mixtures thereof.

38. (Previously presented) The additive of claim 37 wherein the plant oil extract is derived from a member of the Leguminosae family.
39. (Previously presented) The additive of claim 37 wherein the plant oil extract is derived from grain.
40. (Previously presented) The additive of claim 37 further comprising a diluent.
41. (Currently amended) The additive of claim 40 37 wherein the diluent is further comprising a solvent selected from the group consisting of toluene, benzene, o-xylene, m-xylene, p-xylene, cyclohexanes, hexane, octanes, nonanes, diesel fuel, jet fuel, gasoline, 2 cycle oil, resid fuel and mixtures thereof.
42. (Previously presented) The additive of claim 37 further comprising at least one additive selected from the group selected from octane improvers, cetane improvers, detergents, corrosion inhibitors, metal deactivators, ignition accelerators, dispersants, anti-knock additives, anti-run-on additives, anti-pre-ignition additives, anti-misfire additives, anti-wear additives, antioxidants, demulsifiers, carrier fluids, solvents, fuel economy additives, emission reduction additives, lubricity improvers, oxygenates and mixtures thereof.
43. (Previously presented) The additive of claim 37, wherein the carotenoid is selected from the group consisting of β -carotene, α -carotene, lycopene, leutin, betatene and mixtures thereof.
44. (Previously presented) The additive of claim 37 wherein the plant oil extract is barley oil extract, and the carotenoid is β -carotene.
45. (Previously presented) The additive of claim 37 further comprising meadowfoam oil.
46. (Previously presented) A diesel fuel additive comprising;

a plant oil extract selected from the group consisting of hops oil extract, fescue oil extract, barley oil extract, green clover oil extract, wheat oil extract and mixtures thereof;

a carotenoid; and

a thermal stabilizer.

47. (Previously presented) The additive of claim 46 wherein the carotenoid is selected from the group consisting of β -carotene, α -carotene, lycopene, leutin, betatene and mixtures thereof.
48. (Previously presented) The additive of claim 46, wherein the thermal stabilizer is selected from the group consisting of vegetable oils, nut oils, animal oils and mixtures thereof.
49. (Previously presented) The additive of claim 46 wherein the plant oil extract is derived from barley and the carotenoid is β -carotene.
50. (Previously presented) The additive of claim 46 wherein the thermal stabilizer is meadowfoam oil.
51. (Previously presented) The additive of claim 46 further comprising a diluent.
52. (Currently amended) The additive of claim 51-46 wherein the diluent is further comprising a solvent selected from the group consisting of toluene, benzene, o-xylene, m-xylene, p-xylene, cyclohexanes, hexane, octanes, nonanes, diesel fuel, jet fuel, gasoline, 2 cycle oil, resid fuel and mixtures thereof.
53. (Previously presented) The additive of claim 46 further comprising at least one additive selected from the group selected from octane improvers, cetane improvers, detergents, corrosion inhibitors, metal deactivators, ignition accelerators, dispersants, anti-knock additives, anti-run-on additives, anti-pre-ignition

additives, anti-misfire additives, anti-wear additives, antioxidants, demulsifiers, carrier fluids, solvents, fuel economy additives, emission reduction additives, lubricity improvers, oxygenates and mixtures thereof.

54. (Canceled) The additive of claim 46 wherein the plant oil extract is barley oil extract, and the carotenoid is β -carotene.
55. (Currently amended) A diesel fuel comprising a base fuel and at least one ~~addition~~ additive wherein the additive comprises:
 - a plant oil extract derived from grain;
 - a carotenoid; and
 - a thermal stabilizer.
56. (Previously presented) The diesel fuel of claim 55, wherein the grain is selected from the group consisting of fescue, clover, wheat, barley, oats, rye, sorghum, flax, triticale, rice, corn, spelt, millet, amaranth, buckwheat, quinoa, kamut and teff.
57. (Previously presented) The diesel fuel of claim 55 wherein the carotenoid is selected from the group consisting of β -carotene, α -carotene, lycopene, leutin, betatene and mixtures thereof.
58. (Previously presented) The diesel fuel of claim 55, wherein the thermal stabilizer is selected from the group consisting of vegetable oils, nut oils, animal oils and mixtures thereof.
59. (Previously presented) The diesel fuel of claim 55 wherein the plant oil extract is derived from barley and the carotenoid is β -carotene.
60. (Previously presented) The diesel fuel of claim 55 wherein the thermal stabilizer is meadowfoam oil.

61. (Previously presented) The diesel fuel of claim 55 further comprising a diluent.
62. (Currently amended) The diesel fuel of claim 61-55 wherein the diluent is further comprising a solvent selected from the group consisting of toluene, benzene, o-xylene, m-xylene, p-xylene, cyclohexanes, hexane, octanes, nonanes, diesel fuel, jet fuel, gasoline, 2 cycle oil and resid fuel and mixtures thereof.
63. (Previously presented) The diesel fuel of claim 55 further comprising at least one additive selected from the group selected from octane improvers, cetane improvers, detergents, corrosion inhibitors, metal deactivators, ignition accelerators, dispersants, anti-knock additives, anti-run-on additives, anti-pre-ignition additives, anti-misfire additives, anti-wear additives, antioxidants, demulsifiers, carrier fluids, solvents, fuel economy additives, emission reduction additives, lubricity improvers, oxygenates and mixtures thereof.
64. (Canceled) The diesel fuel of claim 55 wherein the plant oil extract is barley oil extract, the carotenoid is β -carotene.
65. (Previously presented) A diesel fuel comprising a base fuel and at least one additive wherein the additive comprises:
 - a hydrophobic plant oil extract;
 - a carotenoid; and

a thermal stabilizer selected from the group consisting of peanut oil, cottonseed oil, rape seed oil, macadamia oil, avocado oil, palm oil, palm kernel oil, meadowfoam oil, castor oil and mixtures thereof.

66. (Previously presented) The diesel fuel of claim 65 wherein the plant oil extract is derived from a member of the Leguminosae family.
67. (Previously presented) The diesel fuel of claim 65 wherein the plant oil extract is derived from grain.
68. (Previously presented) The diesel fuel of claim 65 further comprising a diluent.
69. (Currently amended) The diesel fuel of claim 68 65 wherein the diluent is further comprising a solvent selected from the group consisting of toluene, benzene, o-xylene, m-xylene, p-xylene, cyclohexanes, hexane, octanes, nonanes, diesel fuel, jet fuel, gasoline, 2 cycle oil and resid fuel and mixtures thereof.
70. (Previously presented) The diesel fuel of claim 65 further comprising at least one additive selected from the group selected from octane improvers, cetane improvers, detergents, corrosion inhibitors, metal deactivators, ignition accelerators, dispersants, anti-knock additives, anti-run-on additives, anti-pre-ignition additives, anti-misfire additives, anti-wear additives, antioxidants, demulsifiers, carrier fluids, solvents, fuel economy additives, emission reduction additives, lubricity improvers, oxygenates and mixtures thereof.
71. (Previously presented) The diesel fuel of claim 65, wherein the carotenoid is selected from the group consisting of β -carotene, α -carotene, lycopene, leutin, betatene and mixtures thereof.
72. (Previously presented) The diesel fuel of claim 65 wherein the plant oil extract is barley oil extract, the carotenoid is β -carotene.
73. (Currently amended) A diesel fuel comprising a base feed fuel and at least one addition additive wherein the additive comprises:

a plant oil extract selected from the group consisting of hops oil extract, fescue oil extract, barley oil extract, green clover oil extract, wheat oil extract and mixtures thereof;

a carotenoid; and

a thermal stabilizer.

74. (Previously presented) The diesel fuel of claim 73 wherein the carotenoid is selected from the group consisting of β -carotene, α -carotene, lycopene, leutin, betatene and mixtures thereof.
75. (Previously presented) The diesel fuel of claim 73, wherein the thermal stabilizer is selected from the group consisting of vegetable oils, nut oils, animal oils and mixtures thereof.
76. (Previously presented) The diesel fuel of claim 73 wherein the plant oil extract is derived from barley and the carotenoid is β -carotene.
77. (Previously presented) The diesel fuel of claim 73 wherein the thermal stabilizer is meadowfoam oil.
78. (Previously presented) The diesel fuel of claim 73 further comprising a diluent.
79. (Currently amended) The diesel fuel of claim 73 ~~wherein the diluent is further comprising a solvent~~ selected from the group consisting of toluene, benzene, o-xylene, m-xylene, p-xylene, cyclohexanes, hexane, octanes, nonanes, diesel fuel, jet fuel, gasoline, 2 cycle oil and resid fuel and mixtures thereof.
80. (Previously presented) The diesel fuel of claim 79 further comprising at least one additive selected from the group selected from octane improvers, cetane improvers, detergents, corrosion inhibitors, metal deactivators, ignition accelerators, dispersants,

anti-knock additives, anti-run-on additives, anti-pre-ignition additives, anti-misfire additives, anti-wear additives, antioxidants, demulsifiers, carrier fluids, solvents, fuel economy additives, emission reduction additives, lubricity improvers, oxygenates and mixtures thereof.

81. (Canceled) The diesel fuel of claim 73 wherein the plant oil extract is barley oil extract, the carotenoid is β -carotene.